Date: Fri, 8 Jul 94 04:30:08 PDT
From: Info-Hams Mailing List and Newsgroup <info-hams@ucsd.edu>
Errors-To: Info-Hams-Errors@UCSD.Edu
Reply-To: Info-Hams@UCSD.Edu
Precedence: Bulk
Subject: Info-Hams Digest V94 #762
To: Info-Hams

Info-Hams Digest   Fri, 8 Jul 94   Volume 94 : Issue 762

Today's Topics:
                          ORBS$189.2L.AMSAT
                         ORBS$189.MICRO.AMSAT
                         ORBS$189.MISC.AMSAT
                         ORBS$189.OSCAR.AMSAT
                         ORBS$189.WEATH.AMSAT

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We trust that readers are intelligent enough to realize that all text
herein consists of personal comments and does not represent the official
policies or positions of any party. Your mileage may vary. So there.

Date: 8 Jul 94 04:45:00 GMT
From: news-mail-gateway@ucsd.edu
Subject: ORBS$189.2L.AMSAT
To: info-hams@ucsd.edu

SB KEPS @ AMSAT $ORBS-189.N
2Line Orbital Elements 189.AMSAT

HR AMSAT ORBITAL ELEMENTS FOR AMATEUR SATELLITES IN NASA FORMAT
FROM WA5QGD FORT WORTH,TX July 8, 1994
BID: $ORBS-189.N

DECODE 2-LINE ELSETS WITH THE FOLLOWING KEY:
1 AAAAAU 00 0 0 BBBBB.BBBBBBBB .CCCCCCCC 00000-0 00000-0 0 DDDZ
2 AAAAA EEE.EEEE FFF.FFFF GGGGGGG HHH.HHHH III.IIII JJ.JJJJJJJJKKKKKZ
KEY: A-CATALOGNUM B-EPOCHTIME C-DECAY D-ELSETNUM E-INCLINATION F-RAAN
G-ECCENTRICITY H-ARGPERIGEE I-MNANOM J-MNMOTION K-ORBITNUM Z-CHECKSUM

TO ALL RADIO AMATEURS BT

AO-10
1 14129U 83058B   94176.41110075 -.00000306 00000-0 10000-3 0 2893
2 14129 27.0856 321.0039 6024383 189.2195 150.8337 2.05882336 82954
UO-11
1 14781U 84021B   94186.07267686 .00000122 00000-0 28448-4 0 7056
2 14781 97.7857 199.9598 0010908 209.5355 150.5234 14.69226745552933
RS-10/11
1 18129U 87054A   94187.82828537 .00000033 00000-0 20156-4 0 9249
2 18129 82.9250 314.3214 0011550 338.1080 21.9579 13.72339007352606
AO-13
1 19216U 88051B   94180.17114065 -.00000492 00000-0 10000-4 0 9269
2 19216 57.7928 244.7541 7213733 344.7303   1.9030 2.09725008 46260
FO-20
1 20480U 90013C   94184.97566234 -.00000020 00000-0 35514-4 0 7033
2 20480 99.0371 333.6238 0540509 301.5076 53.4288 12.83226012206283
AO-21
1 21087U 91006A   94187.32341330 .00000094 00000-0 82657-4 0 4868
2 21087 82.9440 128.5539 0037000 31.5792 328.7574 13.74542337172215
RS-12/13
1 21089U 91007A   94186.51538083 .00000026 00000-0 10881-4 0 7053
2 21089 82.9194 357.8515 0030918 58.0299 302.3847 13.74043103171162
ARSENE
1 22654U 93031B   94169.23096299 -.00000111 00000-0 00000 0 0 2631
2 22654   1.8748 99.1484 2919067 184.0582 172.2245 1.42202724 1217
UO-14
1 20437U 90005B   94185.22963909 .00000009 00000-0 20566-4 0   79
2 20437 98.5890 269.7744 0011398 136.9991 223.2086 14.29848391232027
AO-16
1 20439U 90005D   94187.10391636 .00000016 00000-0 23065-4 0 8064
2 20439 98.5965 272.8750 0011799 132.7023 227.5147 14.29902664232309
DO-17
1 20440U 90005E   94186.77654850 .00000014 00000-0 22218-4 0 8065
2 20440 98.5979 272.8817 0011862 132.7562 227.4620 14.30042144232270
WO-18
1 20441U 90005F   94185.21288967 .00000008 00000-0 20089-4 0 8085
2 20441 98.5985 271.3372 0012255 137.8043 222.4091 14.30016126232059
LO-19
1 20442U 90005G   94187.77859823 .00000017 00000-0 23294-4 0 8052
2 20442 98.5996 274.1338 0012634 129.7145 230.5152 14.30112885232438
UO-22
1 21575U 91050B   94185.75312930 .00000006 00000-0 16504-4 0 5095
2 21575 98.4342 259.8954 0006811 235.8685 124.1854 14.36921919155604
KO-23
1 22077U 92052B   94185.26723086 -.00000037 00000-0 10000-3 0 4043
2 22077 66.0823 244.2195 0014697 282.7245 77.2124 12.86287015 88985
AO-27

```
1 22825U 93061C   94184.21585282  .00000000  00000-0  17962-4 0  3024
2 22825  98.6529 259.8634 0008610 156.8774 203.2792 14.27628007 39970
IO-26
1 22826U 93061D   94188.19029709  .00000008  00000-0  20926-4 0  3036
2 22826  98.6524 263.8369 0009331 147.0437 213.1333 14.27732719 40547
KO-25
1 22830U 93061H   94188.19631415 -.00000015  00000-0  11300-4 0  3084
2 22830  98.5532 260.8802 0012308 115.3619 244.8834 14.28059134 40559
NOAA-9
1 15427U 84123A   94187.77737331  .00000015  00000-0  31973-4 0  8659
2 15427  99.0518 238.4969 0015025 160.4623 199.7124 14.13625911493113
NOAA-10
1 16969U 86073A   94187.88940346  .00000071  00000-0  48453-4 0  7631
2 16969  98.5087 196.2905 0012101 273.9586  86.0210 14.24895287405418
MET-2/17
1 18820U 88005A   94187.24254063  .00000024  00000-0  79678-5 0  3290
2 18820  82.5409 253.4248 0017610 122.8796 237.4058 13.84718051324991
MET-3/2
1 19336U 88064A   94185.40860716  .00000051  00000-0  10000-3 0  3003
2 19336  82.5365 311.4907 0015744 218.0746 141.9258 13.16967498285523
NOAA-11
1 19531U 88089A   94187.89787671  .00000105  00000-0  81107-4 0  6842
2 19531  99.1727 177.2915 0012858  77.2410 283.0203 14.13000384298004
MET-2/18
1 19851U 89018A   94187.30301115  .00000049  00000-0  30239-4 0  3014
2 19851  82.5202 128.6831 0013694 166.9199 193.2325 13.84367473270334
MET-3/3
1 20305U 89086A   94186.48673727  .00000044  00000-0  10000-3 0   840
2 20305  82.5514 257.3229 0005770 242.8731 117.1799 13.04403005225287
MET-2/19
1 20670U 90057A   94184.49601309  .00000000  00000-0 -13090-4 0  8058
2 20670  82.5436 195.5122 0017674  99.6833 260.6332 13.84189364202871
FY-1/2
1 20788U 90081A   94187.03709703 -.00000016  00000-0  17930-4 0    84
2 20788  98.8377 206.5732 0015631 322.4799  37.5274 14.01357741196340
MET-2/20
1 20826U 90086A   94187.90737693  .00000062  00000-0  42694-4 0  8147
2 20826  82.5256 130.2947 0014115   0.0689   0.0465 13.83584495190486
MET-3/4
1 21232U 91030A   94188.00639955  .00000051  00000-0  10000-3 0  7134
2 21232  82.5411 155.5829 0014471 132.8228 227.4109 13.16463678153965
NOAA-12
1 21263U 91032A   94187.81959489  .00000124  00000-0  75170-4 0   881
2 21263  98.6169 215.1640 0012622 175.1069 185.0235 14.22424944163321
MET-3/5
1 21655U 91056A   94185.30464082  .00000051  00000-0  10000-3 0  7217
2 21655  82.5524 104.6596 0013168 148.3043 211.8871 13.16831473138715
MET-2/21
```

```
1 22782U 93055A   94183.48809106  .00000041  00000-0  23582-4 0  3133
2 22782  82.5483 194.3091 0021673 179.1448 180.9751 13.83009852 42201
POSAT
1 22829U 93061G   94184.20806376  .00000035  00000-0  31867-4 0  2956
2 22829  98.6494 259.9220 0010501 145.5655 214.6206 14.28031871 39987
MIR
1 16609U 86017A   94188.23091890  .00001554  00000-0  28387-4 0  6686
2 16609  51.6473  86.1256 0002579 120.4443 239.6803 15.56461441 28085
HUBBLE
1 20580U 90037B   94186.22999007  .00000499  00000-0  34525-4 0  5036
2 20580  28.4684 120.0714 0005903 274.7258  85.2653 14.90635014 32081
GRO
1 21225U 91027B   94186.08527972  .00002278  00000-0  47491-4 0  1135
2 21225  28.4603 107.8718 0003328  60.2866 299.8090 15.41004865 59705
UARS
1 21701U 91063B   94187.88533404 -.00001971  00000-0 -15148-3 0  5475
2 21701  56.9858  80.1287 0005926 103.6172 256.5525 14.96398066153889
/EX

------------------------------

Date: 8 Jul 94 04:36:00 GMT
From: news-mail-gateway@ucsd.edu
Subject: ORBS$189.MICRO.AMSAT
To: info-hams@ucsd.edu

SB KEPS @ AMSAT  $ORBS-189.D
Orbital Elements  189.MICROS

HR AMSAT ORBITAL ELEMENTS FOR THE MICROSATS
FROM WA5QGD FORT WORTH,TX July 8, 1994
BID: $ORBS-189.D
TO ALL RADIO AMATEURS BT

Satellite: UO-14
Catalog number: 20437
Epoch time:      94185.22963909
Element set:       7
Inclination:       98.5890 deg
RA of node:       269.7744 deg
Eccentricity:    0.0011398
Arg of perigee:   136.9991 deg
Mean anomaly:     223.2086 deg
Mean motion:   14.29848391 rev/day
Decay rate:        9.0e-08 rev/day^2
Epoch rev:           23202
Checksum:              335
```

```
Satellite: AO-16
Catalog number: 20439
Epoch time:      94187.10391636
Element set:     806
Inclination:       98.5965 deg
RA of node:       272.8750 deg
Eccentricity:    0.0011799
Arg of perigee:   132.7023 deg
Mean anomaly:     227.5147 deg
Mean motion:   14.29902664 rev/day
Decay rate:        1.6e-07 rev/day^2
Epoch rev:           23230
Checksum:              314

Satellite: DO-17
Catalog number: 20440
Epoch time:      94186.77654850
Element set:     806
Inclination:       98.5979 deg
RA of node:       272.8817 deg
Eccentricity:    0.0011862
Arg of perigee:   132.7562 deg
Mean anomaly:     227.4620 deg
Mean motion:   14.30042144 rev/day
Decay rate:        1.4e-07 rev/day^2
Epoch rev:           23227
Checksum:              306

Satellite: WO-18
Catalog number: 20441
Epoch time:      94185.21288967
Element set:     808
Inclination:       98.5985 deg
RA of node:       271.3372 deg
Eccentricity:    0.0012255
Arg of perigee:   137.8043 deg
Mean anomaly:     222.4091 deg
Mean motion:   14.30016126 rev/day
Decay rate:        8.0e-08 rev/day^2
Epoch rev:           23205
Checksum:              292

Satellite: LO-19
Catalog number: 20442
Epoch time:      94187.77859823
Element set:     805
Inclination:       98.5996 deg
RA of node:       274.1338 deg
```

```
Eccentricity:    0.0012634
Arg of perigee:   129.7145 deg
Mean anomaly:     230.5152 deg
Mean motion:   14.30112885 rev/day
Decay rate:        1.7e-07 rev/day^2
Epoch rev:           23243
Checksum:              316

Satellite: UO-22
Catalog number: 21575
Epoch time:      94185.75312930
Element set:     509
Inclination:       98.4342 deg
RA of node:       259.8954 deg
Eccentricity:    0.0006811
Arg of perigee:   235.8685 deg
Mean anomaly:     124.1854 deg
Mean motion:   14.36921919 rev/day
Decay rate:        6.0e-08 rev/day^2
Epoch rev:           15560
Checksum:              325

Satellite: KO-23
Catalog number: 22077
Epoch time:      94185.26723086
Element set:     404
Inclination:       66.0823 deg
RA of node:       244.2195 deg
Eccentricity:    0.0014697
Arg of perigee:   282.7245 deg
Mean anomaly:      77.2124 deg
Mean motion:   12.86287015 rev/day
Decay rate:       -3.7e-07 rev/day^2
Epoch rev:            8898
Checksum:              319

Satellite: AO-27
Catalog number: 22825
Epoch time:      94184.21585282
Element set:     302
Inclination:       98.6529 deg
RA of node:       259.8634 deg
Eccentricity:    0.0008610
Arg of perigee:   156.8774 deg
Mean anomaly:     203.2792 deg
Mean motion:   14.27628007 rev/day
Decay rate:      .00000000 rev/day^2
Epoch rev:            3997
```

```
Checksum:              314

Satellite: IO-26
Catalog number: 22826
Epoch time:      94188.19029709
Element set:     303
Inclination:       98.6524 deg
RA of node:       263.8369 deg
Eccentricity:    0.0009331
Arg of perigee:   147.0437 deg
Mean anomaly:     213.1333 deg
Mean motion:   14.27732719 rev/day
Decay rate:        8.0e-08 rev/day^2
Epoch rev:            4054
Checksum:              306

Satellite: KO-25
Catalog number: 22830
Epoch time:      94188.19631415
Element set:     308
Inclination:       98.5532 deg
RA of node:       260.8802 deg
Eccentricity:    0.0012308
Arg of perigee:   115.3619 deg
Mean anomaly:     244.8834 deg
Mean motion:   14.28059134 rev/day
Decay rate:       -1.5e-07 rev/day^2
Epoch rev:            4055
Checksum:              293

/EX

------------------------------

Date: 8 Jul 94 04:42:00 GMT
From: news-mail-gateway@ucsd.edu
Subject: ORBS$189.MISC.AMSAT
To: info-hams@ucsd.edu

SB KEPS @ AMSAT  $ORBS-189.M
Orbital Elements  189.MISC

HR AMSAT ORBITAL ELEMENTS FOR MANNED AND MISCELLANEOUS SATELLITES
FROM WA5QGD FORT WORTH,TX July 8, 1994
BID: $ORBS-189.M
TO ALL RADIO AMATEURS BT

Satellite: POSAT
```

```
Catalog number: 22829
Epoch time:      94184.20806376
Element set:     295
Inclination:       98.6494 deg
RA of node:       259.9220 deg
Eccentricity:    0.0010501
Arg of perigee:   145.5655 deg
Mean anomaly:     214.6206 deg
Mean motion:   14.28031871 rev/day
Decay rate:        3.5e-07 rev/day^2
Epoch rev:            3998
Checksum:              307

Satellite: MIR
Catalog number: 16609
Epoch time:      94188.23091890
Element set:     668
Inclination:       51.6473 deg
RA of node:        86.1256 deg
Eccentricity:    0.0002579
Arg of perigee:   120.4443 deg
Mean anomaly:     239.6803 deg
Mean motion:   15.56461441 rev/day
Decay rate:      1.554e-05 rev/day^2
Epoch rev:            2808
Checksum:              308

Satellite: HUBBLE
Catalog number: 20580
Epoch time:      94186.22999007
Element set:     503
Inclination:       28.4684 deg
RA of node:       120.0714 deg
Eccentricity:    0.0005903
Arg of perigee:   274.7258 deg
Mean anomaly:      85.2653 deg
Mean motion:   14.90635014 rev/day
Decay rate:       4.99e-06 rev/day^2
Epoch rev:            3208
Checksum:              294

Satellite: GRO
Catalog number: 21225
Epoch time:      94186.08527972
Element set:     113
Inclination:       28.4603 deg
RA of node:       107.8718 deg
Eccentricity:    0.0003328
```

```
Arg of perigee:    60.2866 deg
Mean anomaly:     299.8090 deg
Mean motion:   15.41004865 rev/day
Decay rate:      2.278e-05 rev/day^2
Epoch rev:            5970
Checksum:              303

Satellite: UARS
Catalog number: 21701
Epoch time:      94187.88533404
Element set:     547
Inclination:       56.9858 deg
RA of node:        80.1287 deg
Eccentricity:    0.0005926
Arg of perigee:   103.6172 deg
Mean anomaly:     256.5525 deg
Mean motion:   14.96398066 rev/day
Decay rate:     -1.971e-05 rev/day^2
Epoch rev:           15388
Checksum:              334

/EX

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Date: 8 Jul 94 04:33:00 GMT
From: news-mail-gateway@ucsd.edu
Subject: ORBS$189.OSCAR.AMSAT
To: info-hams@ucsd.edu

SB KEPS @ AMSAT  $ORBS-189.O
Orbital Elements  189.OSCAR

HR AMSAT ORBITAL ELEMENTS FOR OSCAR SATELLITES
FROM WA5QGD FORT WORTH,TX July 8, 1994
BID: $ORBS-189.O
TO ALL RADIO AMATEURS BT

Satellite: AO-10
Catalog number: 14129
Epoch time:      94176.41110075
Element set:     289
Inclination:       27.0856 deg
RA of node:       321.0039 deg
Eccentricity:    0.6024383
Arg of perigee:   189.2195 deg
Mean anomaly:     150.8337 deg
Mean motion:    2.05882336 rev/day
```

```
Decay rate:      -3.06e-06 rev/day^2
Epoch rev:            8295
Checksum:              298

Satellite: UO-11
Catalog number: 14781
Epoch time:      94186.07267686
Element set:     705
Inclination:       97.7857 deg
RA of node:       199.9598 deg
Eccentricity:    0.0010908
Arg of perigee:   209.5355 deg
Mean anomaly:     150.5234 deg
Mean motion:   14.69226745 rev/day
Decay rate:       1.22e-06 rev/day^2
Epoch rev:           55293
Checksum:              350

Satellite: RS-10/11
Catalog number: 18129
Epoch time:      94187.82828537
Element set:     924
Inclination:       82.9250 deg
RA of node:       314.3214 deg
Eccentricity:    0.0011550
Arg of perigee:   338.1080 deg
Mean anomaly:      21.9579 deg
Mean motion:   13.72339007 rev/day
Decay rate:        3.3e-07 rev/day^2
Epoch rev:           35260
Checksum:              291

Satellite: AO-13
Catalog number: 19216
Epoch time:      94180.17114065
Element set:     926
Inclination:       57.7928 deg
RA of node:       244.7541 deg
Eccentricity:    0.7213733
Arg of perigee:   344.7303 deg
Mean anomaly:       1.9030 deg
Mean motion:    2.09725008 rev/day
Decay rate:      -4.92e-06 rev/day^2
Epoch rev:            4626
Checksum:              292

Satellite: FO-20
Catalog number: 20480
```

```
Epoch time:      94184.97566234
Element set:     703
Inclination:       99.0371 deg
RA of node:       333.6238 deg
Eccentricity:    0.0540509
Arg of perigee:   301.5076 deg
Mean anomaly:      53.4288 deg
Mean motion:   12.83226012 rev/day
Decay rate:       -2.0e-07 rev/day^2
Epoch rev:           20628
Checksum:              285

Satellite: AO-21
Catalog number: 21087
Epoch time:      94187.32341330
Element set:     486
Inclination:       82.9440 deg
RA of node:       128.5539 deg
Eccentricity:    0.0037000
Arg of perigee:    31.5792 deg
Mean anomaly:     328.7574 deg
Mean motion:   13.74542337 rev/day
Decay rate:        9.4e-07 rev/day^2
Epoch rev:           17221
Checksum:              296

Satellite: RS-12/13
Catalog number: 21089
Epoch time:      94186.51538083
Element set:     705
Inclination:       82.9194 deg
RA of node:       357.8515 deg
Eccentricity:    0.0030918
Arg of perigee:    58.0299 deg
Mean anomaly:     302.3847 deg
Mean motion:   13.74043103 rev/day
Decay rate:        2.6e-07 rev/day^2
Epoch rev:           17116
Checksum:              309

Satellite: ARSENE
Catalog number: 22654
Epoch time:      94169.23096299
Element set:     263
Inclination:        1.8748 deg
RA of node:        99.1484 deg
Eccentricity:    0.2919067
Arg of perigee:   184.0582 deg
```

```
Mean anomaly:     172.2245 deg
Mean motion:    1.42202724 rev/day
Decay rate:      -1.11e-06 rev/day^2
Epoch rev:             121
Checksum:              288

/EX

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Date: 8 Jul 94 04:40:00 GMT
From: news-mail-gateway@ucsd.edu
Subject: ORBS$189.WEATH.AMSAT
To: info-hams@ucsd.edu

SB KEPS @ AMSAT  $ORBS-189.W
Orbital Elements  189.WEATHER

HR AMSAT ORBITAL ELEMENTS FOR WEATHER SATELLITES
FROM WA5QGD FORT WORTH,TX July 8, 1994
BID: $ORBS-189.W
TO ALL RADIO AMATEURS BT

Satellite: NOAA-9
Catalog number: 15427
Epoch time:      94187.77737331
Element set:     865
Inclination:       99.0518 deg
RA of node:       238.4969 deg
Eccentricity:    0.0015025
Arg of perigee:   160.4623 deg
Mean anomaly:     199.7124 deg
Mean motion:   14.13625911 rev/day
Decay rate:        1.5e-07 rev/day^2
Epoch rev:           49311
Checksum:              323

Satellite: NOAA-10
Catalog number: 16969
Epoch time:      94187.88940346
Element set:     763
Inclination:       98.5087 deg
RA of node:       196.2905 deg
Eccentricity:    0.0012101
Arg of perigee:   273.9586 deg
Mean anomaly:      86.0210 deg
Mean motion:   14.24895287 rev/day
Decay rate:        7.1e-07 rev/day^2
```

```
Epoch rev:           40541
Checksum:              333

Satellite: MET-2/17
Catalog number: 18820
Epoch time:      94187.24254063
Element set:     329
Inclination:       82.5409 deg
RA of node:       253.4248 deg
Eccentricity:    0.0017610
Arg of perigee:   122.8796 deg
Mean anomaly:     237.4058 deg
Mean motion:   13.84718051 rev/day
Decay rate:        2.4e-07 rev/day^2
Epoch rev:           32499
Checksum:              315

Satellite: MET-3/2
Catalog number: 19336
Epoch time:      94185.40860716
Element set:     300
Inclination:       82.5365 deg
RA of node:       311.4907 deg
Eccentricity:    0.0015744
Arg of perigee:   218.0746 deg
Mean anomaly:     141.9258 deg
Mean motion:   13.16967498 rev/day
Decay rate:        5.1e-07 rev/day^2
Epoch rev:           28552
Checksum:              315

Satellite: NOAA-11
Catalog number: 19531
Epoch time:      94187.89787671
Element set:     684
Inclination:       99.1727 deg
RA of node:       177.2915 deg
Eccentricity:    0.0012858
Arg of perigee:    77.2410 deg
Mean anomaly:     283.0203 deg
Mean motion:   14.13000384 rev/day
Decay rate:       1.05e-06 rev/day^2
Epoch rev:           29800
Checksum:              310

Satellite: MET-2/18
Catalog number: 19851
Epoch time:      94187.30301115
```

```
Element set:     301
Inclination:       82.5202 deg
RA of node:       128.6831 deg
Eccentricity:    0.0013694
Arg of perigee:   166.9199 deg
Mean anomaly:     193.2325 deg
Mean motion:   13.84367473 rev/day
Decay rate:        4.9e-07 rev/day^2
Epoch rev:           27033
Checksum:              304

Satellite: MET-3/3
Catalog number: 20305
Epoch time:      94186.48673727
Element set:      84
Inclination:       82.5514 deg
RA of node:       257.3229 deg
Eccentricity:    0.0005770
Arg of perigee:   242.8731 deg
Mean anomaly:     117.1799 deg
Mean motion:   13.04403005 rev/day
Decay rate:        4.4e-07 rev/day^2
Epoch rev:           22528
Checksum:              294

Satellite: MET-2/19
Catalog number: 20670
Epoch time:      94184.49601309
Element set:     805
Inclination:       82.5436 deg
RA of node:       195.5122 deg
Eccentricity:    0.0017674
Arg of perigee:    99.6833 deg
Mean anomaly:     260.6332 deg
Mean motion:   13.84189364 rev/day
Decay rate:      .00000000 rev/day^2
Epoch rev:           20287
Checksum:              305

Satellite: FY-1/2
Catalog number: 20788
Epoch time:      94187.03709703
Element set:       8
Inclination:       98.8377 deg
RA of node:       206.5732 deg
Eccentricity:    0.0015631
Arg of perigee:   322.4799 deg
Mean anomaly:      37.5274 deg
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Mean motion:   14.01357741 rev/day
Decay rate:       -1.6e-07 rev/day^2
Epoch rev:           19634
Checksum:              316

Satellite: MET-2/20
Catalog number: 20826
Epoch time:      94187.90737693
Element set:     814
Inclination:       82.5256 deg
RA of node:       130.2947 deg
Eccentricity:    0.0014115
Arg of perigee:     0.0689 deg
Mean anomaly:       0.0465 deg
Mean motion:   13.83584495 rev/day
Decay rate:        6.2e-07 rev/day^2
Epoch rev:           19048
Checksum:              303

Satellite: MET-3/4
Catalog number: 21232
Epoch time:      94188.00639955
Element set:     713
Inclination:       82.5411 deg
RA of node:       155.5829 deg
Eccentricity:    0.0014471
Arg of perigee:   132.8228 deg
Mean anomaly:     227.4109 deg
Mean motion:   13.16463678 rev/day
Decay rate:        5.1e-07 rev/day^2
Epoch rev:           15396
Checksum:              305

Satellite: NOAA-12
Catalog number: 21263
Epoch time:      94187.81959489
Element set:      88
Inclination:       98.6169 deg
RA of node:       215.1640 deg
Eccentricity:    0.0012622
Arg of perigee:   175.1069 deg
Mean anomaly:     185.0235 deg
Mean motion:   14.22424944 rev/day
Decay rate:       1.24e-06 rev/day^2
Epoch rev:           16332
Checksum:              307

Satellite: MET-3/5
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Catalog number: 21655
Epoch time:      94185.30464082
Element set:     721
Inclination:       82.5524 deg
RA of node:       104.6596 deg
Eccentricity:    0.0013168
Arg of perigee:   148.3043 deg
Mean anomaly:     211.8871 deg
Mean motion:   13.16831473 rev/day
Decay rate:        5.1e-07 rev/day^2
Epoch rev:           13871
Checksum:              292

Satellite: MET-2/21
Catalog number: 22782
Epoch time:      94183.48809106
Element set:     313
Inclination:       82.5483 deg
RA of node:       194.3091 deg
Eccentricity:    0.0021673
Arg of perigee:   179.1448 deg
Mean anomaly:     180.9751 deg
Mean motion:   13.83009852 rev/day
Decay rate:        4.1e-07 rev/day^2
Epoch rev:            4220
Checksum:              298

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End of Info-Hams Digest V94 #762
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